Available online at www.sciencedirect.com

SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 31 (2012) 73 – 81

Procedia
Social and Behavioral Sciences

WCLTA 2011

Metacognitive strategies awareness and success in learning English as a foreign language: an overview

Mehrak Rahimi[a]*, Maral Katal[a]

[a]*English Department, Faculty of Humanities, Shahid Rajaee Teacher Training University, Lavizan, Tehran, 1678815811, Iran*

Abstract

Metacognition is the ability to be conscious of one's mental processes. Research shows that metacognitive learners who take conscious steps to understand what they are doing when they learn tend to be the most successful learners. As the proficient use of metacognitive strategies is rare among students, more research on metacognitive awareness is crucial to determine how students can be taught to apply the cognitive resources in order to activate their repertoire of metacognitive knowledge and strategies and to enhance their learning? This study gives an overview of theories and practices in the field of metacognitive knowledge and language learning.

Keywords:Metacognitive strategies, awareness, language learning, successful learners ;

1. Introduction

Since the mid-1970s, learning strategies have been at the center of attention in L2 learning (Anderson, 1991, 2003; Cohen, 1990, 1998; Hosenfeld, 1979; Macaro, 2001; O'Malley and Chamot, 1990; Oxford, 1990, 1993, 2002; Rubin, 1975; Stern, 1975; Wenden, 1991, 2002). Learning strategies are defined as techniques for understanding, remembering, and using information that are intentionally used and consciously controlled by the learner (Pressley & McCormick, 1995; Bialystok, 1990; Oxford, 1990, 1996).

Classification of language learner strategies varies somewhat, depending on the definition of the researchers in question. Many researchers support the classification of L2 learning strategies into six distinct categories that correspond to Oxford's six dimensions of strategy classification for the Strategy Inventory for Language Learning (SILL) including cognitive strategies, metacognitive strategies, memory strategies, compensatory strategies, affective strategies, and social strategies. Anderson (2003) classifies language learning strategies into seven major categories: cognitive strategies, metacognitive strategies, mnemonic or memory related strategies, compensatory strategies, affective strategies, social strategies, and self-motivating strategies. However, other researchers (O'Malley & Chamot, 1990; Chamot, Barnhardt, El-Dinary, & Robbins, 1999; Cohen, 1996) use a fewer number. O'Malley and Chamot (1990), for instance, have differentiated the range of cognitive categories into two main types: metacognitive and cognitive strategies. Metacognitive strategies oversee, direct and regulate the learning process. These kinds of strategies involve thinking about learning process, planning, monitoring and evaluating learning.

*Mehrak Rahimi. Tel: +982122970035; fax: +9821 22970033
E-mail address:mehrakrahimi@yahoo.com; rahimi@srttu.edu

1877-0428 doi:10.1016/j.sbspro.2011.12.019

Cognitive strategies, however, manipulate the material to be learned or apply a specific technique to the learning task.

The research on learning strategies has highlighted the importance of strategy instruction and its role in making learners more successful in academic career. Oxford (2003) believes that "language learning styles and strategies are among the main factors that help determine how - and how well -our students learn a second or foreign language" (p. 1). When chosen consciously, language learning strategies can act as a key to active, conscious, and purposeful self-regulation learning. Accordingly, one way to accelerate the academic language learning is to teach learners how to learn more effectively and efficiently. As a consequence, the goal of strategy training is self-diagnosis, awareness of how to learn target language most efficiently, developing problem solving skills, experimenting familiar and unfamiliar learning strategies, decision making about how to approach a task, monitoring and self-evaluation, transferring successful learning strategies to new learning context, and enabling students to become more independent, autonomous, and lifelong learners (Allwright, 1990; Little, 1991, cited in Oxford, 2003).

A good rationale for integrating explicit instruction of language learning strategies into the language curriculum has been provided by Nunan (1996). "Language classrooms should have a dual focus, not only teaching language content but also on developing learning processes as well" (p. 41). Research has shown that language learners can learn more effectively when teaching them some of the learning strategies that have been identified as one of the defining characteristics of *a good language learner* in the literature (Rubin, 1975, 1981; Stern, 1975).

There is also evidence that metacognitive strategies play more significant role than other learning strategies in this process because once a learner understands how to regulate his/her own learning through the use of strategies, language acquisition should proceed at a faster rate (Anderson, 2003). Strategic learners have metacognitive knowledge about their own thinking and learning approaches, a good understanding of what a task entails, and the ability to orchestrate the strategies that best meet both the task demands and their own learning strengths.

Developing metacognition brings learners an awareness of the learning process and strategies that lead to success. When learners are equipped with this knowledge, they will understand their own thinking and learning process and accordingly, they are more likely to oversee the choice and application of learning strategies, plan how to proceed with a learning task, monitor their own performance on an ongoing basis, find solutions to problems encountered, and evaluate themselves upon task completion (Zhang & Goh, 2006). Metacognitive knowledge is crucial for learners selecting and activating strategies (Rubin, 1987) and it is important that teachers strive to develop students' own metacognition and teach them how to use strategies that they find effective for the kinds of tasks they need to accomplish in the process of language learning (Goh, 2008).

2. Metacognition

At the heart of metacognitive instruction is the concept of metacognition which was introduced in cognitive psychology more than thirty years ago (Goh, 2008). Metacognition has been defined as a construct that refers to thinking about one's thinking or the human ability to be conscious of one's mental processes (Nelson, 1996). Wenden (1998) defines metacognition as knowledge about learning that is a part of a learner's store of acquired knowledge and a system of related ideas, relatively stable, early developing and an abstraction of a learners' experience. According to Flavell (1976) metacognitive knowledge is "one's knowledge concerning one's own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or data" (p. 232). Metacognition is a form of cognition and a high level thinking process that involves active control over cognitive processes (Wenden, 1998). It is also considered as the 'seventh sense' and one of the mental characteristics that successful learners use (Birjandi, 2006).

Metacognitive knowledge as a kind of declarative knowledge can be classified according to whether it focuses on the learner, the learning task or the process of learning. These three categories are referred to as the person knowledge, i.e., the knowledge a person has about himself or herself and others as cognitive processors; task

knowledge, i.e., the knowledge a person has about the information and resources they need to undertake a task; and the strategy knowledge. i.e., the knowledge regarding the strategies which are likely to be effective in achieving goals and undertaking tasks (Flavell, 1976).

As noted by Brown et al. (1983), metacognitive knowledge and metacognitive strategies are two distinct components of the term metacognition. Metacognitive knowledge refers to information learners acquire about their learning, while metacognitive strategies are general skills through which learners manage, direct, regulate, and guide their learning. The basic metacognitive strategies include connecting new information to the old one; selecting deliberate thinking strategies; and planning, monitoring and evaluating thinking processes (Oxford, 2002). They help learners regulate and oversee learning activities such as taking conscious control of learning, planning and selecting strategies, monitoring the process of learning, correcting errors, analyzing the effectiveness of learning strategies, and changing learning behaviors and strategies when necessary (Ridley et al., 1992).

The deployment of these three strategies in learning is referred to as self-regulation in cognitive psychology and as self-direction in adult education. Applied studies in educational psychology postulate that the use of metacognitive strategies is important in the improvement of learning since they allow students to plan, control, and evaluate their learning (Oxford, 2002) and "students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress, or review their accomplishments and future learning directions" (O'Malley & Chamot, 1990, p. 8). Further, they help learners understand themselves and the tasks they engage in and eventually help students to gain higher achievement and better learning outcome (Wenden, 1991).

3. Metacognitive knowledge and success in language learning

Many research studies have focused on finding the role of metacognitive awareness in students' learning outcome and achievement in different school subjects. There is extensive evidence that learners' metacognition can directly affect the process and the outcome of their learning (Boekaerts, Pintrich, & Zeidner, 2000; Bolitho et al., 2003; Eilam & Aharon, 2003; Mokhtari & Reichard, 2002; Palmer & Goetz, 1988; Victori & Lockhart, 1995; Zimmerman & Schunk, 2001; Purpura, 1997, 1998). Metacognitive awareness raising can improve the level of students' performance and by implementing metacognitive teaching in educational process, desirable educational goals can be achieved. Flavell (1979) argues for the positive effects metacognition has on learning in general:

> I believe that metacognitive knowledge can lead you to select, evaluate, revise, and abandon cognitive tasks, goals, and strategies in light of their relationships with one another and with your own abilities and interests with respect to that enterprise. Similarly, it can lead to any of a wide variety of metacognitive experiences concerning self, tasks, goals, and strategies, and can also help you interpret the meaning and behavioral implications of these metacognitive experiences (p. 908).

Within the realm of language teaching one string of study has focused on finding the role metacognitive knowledge plays in determining the effectiveness of individuals' attempts to learn another language. According to Flavell (1979), the effective role of metacognitive knowledge in many cognitive activities related to language use is conspicuous, e.g., oral communication of information, oral persuasion, oral comprehension, reading comprehension, and writing, to language acquisition, and to various types of self-instruction. Research on metacognitive knowledge and language learning especially learner strategies has acknowledged a mutual influence in terms of second language learning (Zhang & Goh, 2006) and highlights the fact that metacognitive knowledge should be incorporated in learner training programs to make their learning more efficient (Wenden, 1998).

In line with this, researchers have tried to specify the characteristics of good language learners and the type of strategies they use in a specific language task (Birjandi et al, 2006). It has been found that explicit metacognitive knowledge about task characteristics and applying appropriate strategies for task solution is a major determiner of language learning effectiveness (Mahmoudi et al., 2010). The reason lies in the fact that metacognitive strategies

enable learners to play active role in the process of learning, to manage and direct their own learning and eventually to find the best ways to practice and reinforce what they have learned (Chari et al., 2010). This puts them in a privileged position to process and store new information and leads to better test performance, learning outcome, and better achievement (Mokhtari et al., 2002; Zimmerman et al., 2001). Moreover, metacognitive knowledge characterizes the approach of expert learners to learning (Baker & Brown 1984, Nickerson et al., 1985, Wong, 1986), it enhances learning outcomes (Dickinson, 1995; Zimmerman, 1989; Zimmerman & Bahdura, 1994) facilitates information recall (Nickerson et al., 1985), comprehension of written texts (Brown et al., 1986; Schommer, 1990), and the completion of new types of learning tasks (Vann & Abraham, 1990) and improves the rate of progress in learning (Victori & Lockart, 1995) and the quality and speed of learners' cognitive engagement (Pintrich et al., 1993).

Some other studies have focused on what proficient and successful language learners do while reading, writing, speaking, and listening with regard to the type of strategies they use, and how and under what conditions they use those strategies. The findings of these studies support the fact that proficient language learners take conscious steps to understand what they are doing by using a wider range of strategies than less proficient learners do (Anderson, 2003; Rasekh et al., 2003). Similar findings have also been reported in a number of studies for second language listeners (Goh 1998, 1999; O'Maley, Chamot & Küpper 1989; Vandergrift 1996, 1997; Young, 1997). The general finding of these studies shows that high degrees of metacognitive knowledge helps learners to be better at processing and storing new information, finding the best ways to practice and reinforce what they have learned (Vandergrift et al., 2006) and it plays an important role in enhancing thinking and comprehension (Costa, 2001; Sternberg, 1998; Wenden, 1998).

Further, there are also theories and research findings in the literature on the relationship between metacognitive knowledge and autonomy and their mutual influence on successful learning that are worthy of note. According to wenden (1998) metacognitive knowledge influences the self-regulation of learning in planning, monitoring and evaluating skills and these skills can constitute self-directed language learning. Metacognitive knowledge informs planning decisions taken at the outset of learning and the monitoring processes that regulate the completion of a learning task, e.g., self-observation, assessment of problems and progress, and decisions to remediate; it also provides the criteria for evaluation made once a learning task is completed. Metacognitive knowledge is considered as prerequisite to self-regulation (Butler & Winne 1995; Baker & Brown 1984), it provides knowledge base for planning, monitoring and evaluation (Perkins & Salomon,1989), and it helps learners to play active role in the process of learning rather than being passive (Paris & Winograd, 1990).

It is also suggested that language learning strategies are the key factors in accomplishing autonomy (Wenden, 1991; Brown, 1994; Oxford, 1996; Skehan, 1998; Yang, 1998) and that metacognitive strategies increase learner autonomy and its direction toward more individualized instruction (Fewell, 2010). Vandergrift (2005) in his study on the relationship between metacognition, motivation, and listening proficiency found a pattern of increasingly higher correlations among the three levels of motivation (motivation, extrinsic motivation, and intrinsic motivation) and reported use of metacognitive strategies. He further argued that these patterns of correlation provided some evidence for the hypothesized links among self-determination theory, self-regulated learning, learner autonomy, and metacognition.

4. Research on learning strategies in Iran

According to Oxford (1990), people of different cultures approach learning tasks differently and therefore discovering and analyzing these strategies will help teachers, learners, materials and curriculum developers in a given culture to maximize the efficiency of teaching and learning in the language program. The analysis of research studies that have been conducted in Iran shows that they are mostly descriptive in nature, focus on the impact of

metacognitive awareness on written skills and ignore speaking skill, while a few studies have focused on metacognitive listening strategies awareness.

In an early study on the issue, Lachini (1997) administrated O'Malley and Chamot's (1990) questionnaire to sixty Iranian students. He found that Iranian students use cognitive and metacognitive strategies more than other learning strategies and intermediate to advanced students make use of learning strategies more than other students. Tajedin (2001) investigated the use of learning strategies, gender, language proficiency and learning situation. He used Oxford's eighty-item questionnaire (1990) and found that Iranian students use metacognitive strategies more frequently and affective strategies less frequently than other learning strategies. Also he found that men and women were not different in their use of learning strategies.

Akbari (2003) used Oxford's (1990) fifty-item questionnaire in order to investigate the relationship between the use of language learning strategies by Iranian learners of English and their foreign language proficiency. One hundred and twenty-eight EFL university students participated in the study. Results of the study demonstrated that metacognitive strategies are used more than other strategies and advanced students use cognitive, metacognitive and compensation strategies more than other strategies. Also, he found that compensation strategies can predict the proficiency level of students to a greater degree compared with other learning strategies. Moreover, he investigated the relationship between learners' IQ scores and strategy use and found no significant relationship between them. Salehi and Farzad (2003) investigated the relationship between metacognitive knowledge, learning conception and learning English among more than three hundred students. In order to carry out the research they used state metacognition inventory which was developed and validated by O'Neil and Abedi (1996), learning conception interview based on Saljo's study (1979), and a researcher-made English language proficiency test. Results of the study revealed that there is a relationship between metacognitive knowledge, learning conception and learning English. Moreover, a difference between weak and strong students in metacognitive awareness and learning and conception of learning was found, while no gender differences have been reported in this regard.

Zare and Sarmadi (2004) investigated the difference between weak and strong university students in their metacognitive knowledge and metacognitive strategies awareness. They administrated two researcher-made questionnaires regarding metacognitive knowledge and metacognitive strategies to BA students. Result of the study demonstrated that metacognitive knowledge and metacognitive strategies awareness affect students' academic achievement. Maleki (2005) also investigated the effect of cognitive and metacognitive strategies on improvement of different school subjects such as English. Two hundred and seventy high-school students participated in his study. In order to carry out a quasi-experimental design, he chose twelve lessons from specified subjects for practice and devised six exam questions from these lessons and administrated them in pre- and posttest steps. He found that cognitive strategies were useful in learning physics and metacognitive strategies were only useful in social lessons but neither cognitive strategies nor metacognitive strategies were found to be useful in learning English.

Pishghadam (2009) has investigated the relationship between the use of learning strategies with gender for learning English and the preferred learning strategies for learning English by Iranian students. He administrated Oxford's (1990) language learning strategies inventory among three thousands Iranian university students. Results of the study demonstrated that Iranian students use metacognitive strategies more than other strategies and affective strategies less than other learning strategies. Moreover, men and women were not reported to be different in their use of learning strategies in general but men were found to use social and memory strategies more when compared with other strategies. Salarifar and Pakdaman (2010) investigated the role of metacognitive state components on academic performance. The participants who were high-school students completed O'Neill and Abedi's (1996) Metacognitive State Questionnaire. Results revealed a positive association between metacognitive state and academic performance. Meshkat and Nasirifiruz (2009) investigated self-evaluation as a metacognitive strategy in grammar enhancement. Nelson's test (1976) was used to identify students' language proficiency. Moreover, six

researcher-made grammar tests were used for data analysis. Findings revealed that self-evaluation had a positive effect in enhancing students' grammatical knowledge.

Javadi et al. (2010) investigated the relationship between metacognitive awareness of reading strategies and students' academic status in Isfahan University of Medical Sciences. Metacognition Awareness Reading Strategies (MARSI) inventory which was developed and validated by Mokhtari and Reichard (2002) was administrated among participants. Results revealed that advanced students used more complex cognitive and metacognitive strategies than lower level students. Moreover, a relationship between metacognitive awareness and academic achievement was found. It was also found that metacognitive awareness and demographic variables such as age, gender and living area were not related. ShiraniBidabadi and Yamat (2010) investigated the relationship between listening strategies employed by Iranian EFL freshman university students and their learning style preferences. They used Vandergrift et al. (2006) Metacognitive Awareness Listening Questionnaire (MALQ) and listening strategy questionnaire (Archer 2002). Descriptive analysis of the data revealed that Iranian EFL freshman students' employed metacognitive listening strategies such as planning, directed attention and selective attention the most. Also regarding learning style preferences they considered themselves as communicative learners. They found that there was a significant association between Iranian freshman students' learning style preferences and the use of learning strategies. Sutudenama and Taghipur (2010) investigated the relationship between motivation, metacognitive knowledge of learning strategies and listening comprehension of Iranian learners of English. They used MALQ (Vandergrift et al, 2006) and Gardner's belief and motivation questionnaire (1985) along with think-aloud procedure. Result of the study revealed that skilled learners in listening are different from less skilled listeners in strategy use. It was found that skilled learners used strategies more than less skilled learners and less skilled listeners used inappropriate strategies more than skilled listeners. It was also found that highly motivated students and low motivated students were not different in their strategy use in general; however, highly motivated students were different in the use of two strategies from low motivated students. In general, result showed listening comprehension and motivation were positively correlated.

In a recent study, ShiraniBidabadi and Yamat (2011) investigated the relationship between learning strategies used by Iranian EFL freshman university students and their listening proficiency. They used Oxford Placement Test developed by Allen (1992) and the modified version of MALQ (Vandergrift, et al. 2006; Vandergrift, 1997). They carried out descriptive analysis on the data gathered from advanced, intermediate, and lower-intermediate university students and found that these students use metacognitive strategies more frequently, followed by cognitive and socio-affective listening strategies. They also found a positive correlation between students listening proficiency level and learning strategies. Finally, Rahimi and Katal (2011) investigated the level of Iranian university students' metacognitive listening strategies awareness in learning English by administering MALQ among university students of different majors. The overall result showed that more than 60% of the participants were fully or considerably aware of their metacognitive listening strategies. It was also found that girls and boys were not different with regard to their general metacognitive awareness of listening strategies. However, girls' awareness in directed attention was significantly higher than boys' awareness. Further, English students were found to be more aware of their problem-solving and planning and evaluation strategies and non-English majors were found to be more aware of their mental translation strategies.

5. Conclusions

Metacognition is defined as a construct that refers to thinking about one's thinking or the human ability to be conscious of one's mental processes. The result of scholarly work shows that those learners who take conscious steps to understand what they are doing and use a greater variety of strategies tend to be the most successful learners. It is also evident that the use of metacognitive strategies allows students to plan, control, and evaluate their learning that eventually helps them gain higher achievement and better learning outcome in both face to face and

virtual learning environments. Therefore, more research is required to find the role of metacognitive knowledge in determining the effectiveness of individuals' attempts to learn another language, specifying the characteristics of good language learners, and the type of strategies they use in a specific language task. This paper reviewed theories and models on metacognition and studies done in the field of metacognitive knowledge and language learning in an EFL setting-Iran- with the hope of providing language experts with the importance of metacognition in language programs.

References

Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *Modern Language Journal, 75*, 460-472.

Anderson, N. J. (2003). Metacognitive reading strategies increase L2 performance. *The Language Teacher, 27*, 20-22.

Akbari, R. (2003). The relationship between the use of language learning Strategies by Iranian learners of English, their foreign language Proficiency, and the learners' IQ scores. *IJAL, 6*, 1-20. Available online: www.sid.ir

Baker, L., and Brown, A. (1984). Metacognitive skills and reading in P. D. Pearson (ed). *Handbook of Reading Research*. New York: Longman.

Boekaerts, M., Pintrich, P., and Zeidner, M. (2000).*Handbook of self-regulation.* San Diego: Academic Press.

Bolitho, R., Carter, R., Hughes, R., Ivanic, R., Masuhara, H., and Tomlinson, B. (2003). Ten questions about language awareness. *ELT Journal*, 57(3), 251-260.

Birjandi, P., Mirhassani, A. and Abbasian, G. (2006).Setting-based metacognitive strategy use.*Journal of Faculty of Letters and Humanities, 49*(198), 39-87. Available online: www.sid.ir.

Brown, A., Bransford, J. D., Ferraraand, R., and Campione, J.C.(1983). Learning, remembering and understanding. In J. H. Flavell & E. M. Markman (Eds) *Carmichael's Manual of Child Psychology,* Volume 1. New York: Wiley.

Brown, A., Armbruster, B., and Baker, L. (1986). The role of metacognition in reading and studying. In J. Orasanu (eds.), *Reading comprehension from research to practice*. Hillsdale: NJ Lawrence Erlbaum Associates.

Brown, H.D. (3rd Ed.). (1994). *Principles of language learning and teaching*. Englewood Cliffs: Prentice-Hall.

Butler, D. L. and Winne, P.H. (1995). Feedback and self-regulated learning: A theoretical synthesis. *Review of Educational Research, 65*, 245-82.

Chamot, A. U., Barnhardt, S., El-Dinary, P. B., and Robbins, J. (1999). *The learning strategies handbook*. New York: Longman.

Chamot, A.U., and Robbins, J. (2006). Helping struggling students become good language learners. National Capital Language Resource Center. Available online: http://nclrc.org

Chari, M., Samavi, A. and Kordestani, D. (2010). Investigating psychometric characteristics of metacognitive reading strategies scale among Iranian high-school students. *Psychiatry Studies, 6,* 1-22. Available online: www.sid.ir

Cohen, A. D. (1990). *Language learning: Insights for learners, teachers, and researchers*. New York: Newbury House.

Cohen, A. D. (1996). Second language learning and use strategies: Clarifying the issues. *CARLA Working Paper Series #3*. Minneapolis, MN: The University of Minnesota.

Cohen, A.D. (1998). *Strategies in learning and using a second language*. Harlow: Longman.

Cohen,A.(2003). Strategy training for second language learners. Eric digest, EDO-FL, 03-02.

Costa, A. L. (Ed.) (2001).*Developing minds: A resource book for teaching thinking* (3rd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Dickinson, L. (1995). Autonomy and motivation: A literature review. *System, 23*,165-74.

Eilam, B., and Aharon, I. (2003).Students' planning in the process of self-regulated learning. *Contemporary Educational Psychology, 28*, 304-334.

Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence*. Hillsdale, NJ: Erlbaum.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist, 34*, 906 - 911.

Fewell, N. (2010).Language learning strategies and English language proficiency: an investigation of Japanese EFL university students. *TESOL Journal, 2*, 159-174.

Goh, C. (1998). How learners with different listening abilities use comprehension strategies and tactics. *Language Teaching Research, 2*, 124-47.

Goh, C. (1999). What learners know about the factors that influence their listening comprehension? *Hong Kong Journal of Applied Linguistics, 4*, 17-42.

Goh, C. (2008). Metacognitive instruction for second language listening development: Theory, practice and research implications. *Regional Language Centre Journal, 39*(2), 188-213.

Hadjileontiadou,S,J.(2004). Using metacognition to enhance web-based collaboration: A case study in engineering education. Aristotle University, Greece.

Hosenfeld, C. (1979). A learning-teaching view of second language instruction. *Foreign Language Annals, 12*, 51-57.

Javadi, M., Keyvanara. M., Yaghoobbi, M., Hassanzade, A., and Ebadi, Z.(2010). The Relationship between metacognitive awareness of reading strategies and students' academic status in Isfahan University of Medical Sciences. *Iranian medical science journal, 3*(10).246-254. Available online: www.sid.ir

Koçaka, K., and Boyac, M. (2010).The predictive role of basic ability levels and metacognitive strategies of students on their academic success. *Procedia Social and Behavioral Sciences, 2*, 767-772.

Lachini, k. (1997).*The impact of language proficiency on language Communication and learning strategies.* (Unpublished doctoral dissertation). Islamic Azad University, Tehran, Iran.

Macaro, E. (2001). *Learning strategies in foreign and second language classrooms*. London: Continuum

Mahmoudi, E. and Khonamri, F. (2010, October).The relationship between metacognitive awareness of reading strategies and comprehension monitoring in reading ability of EFL learners. Paper presented The 8th International TELLSI Conference, Al-Zahra University, Tehran, Iran.

Maleki, B. (2005). The effect of cognitive and metacognitive strategies on improvement of different school subjects. *New findings in cognitive science*, *7*(3),42-49.

Meshkat, M., and Nasirifirouz, A. (2009). Self-assessment metacognitive strategy in increasing language learners' grammar knowledge. *Journal of Education Technology, 44*, 29-36.

Mokhtari, K., and Reichard, C. (2002).Assessing students' metacognitive awareness of reading strategies. *Journal of Educational Psychology, 94*, 249-259.

Nelson, T. O. (1996). Consciousness and metacognition. *American Psychologist, 51*, 102-116.

Nickerson, R. S., Perkins, D.N., and Smith, E.E. (1985). *The teaching of thinking*. Hillsdale, NJ Lawrence Erlbaum Associates

Nunan, D.(1997). Does learner strategy training make a difference? *Lenguas Modernas, 24*,123-142.

Nunan, D. (1996). Learner strategy training in the classroom: An action research study. *TESOL Journal, 6*(1), 35-41.

O'Malley, J.M., Chamot, A.U., and Küpper, L. (1989).Listening comprehension strategies in second language acquisition. *Applied Linguistics, 10*, 418-37.

O'Malley, J. M., and Chamot, A. U. (1990). *Learning strategies in second language acquisition*. New York: Cambridge University Press.

Oxford, R. L. (1990). Language learning strategies: *What every teacher should know*. New York: Newbury House Publishers.

Oxford, R.L. (1993). Research on second language learning strategies. Annual Review of Applied Linguistics, 13, 175-187.

Oxford, R.L.(1996).*Language learning strategies around the world: Cross-cultural perspectives*. Manoa: University of Hawaii Press.

Oxford, R. (2002). Language learning strategies. In R. Carter and D. Nunan (Eds.), *The Cambridge guide to teaching English to speakers of other languages* (pp. 166-172). Cambridge: Cambridge University Press.

Oxford, R. L.(2003). *Language learning styles and strategies: An Overview*. Oxford: GALA.

Palmer, D. J., and Goetz, E. T. (1988). Selection and use of study strategies: The role of the studier's beliefs about self and strategies. In C. E. Weinstein, E. T. Goetz, and P. Alexander (Eds.), *Learning and study strategies: Issues in assessment, instruction, and evaluation* (pp. 77–100). Orlando, FL: Academic Press.

Paris, S.G., and Winograd, P. (1990). How Metacognition can promote academic learning and instruction. In Jones, B.F., Idol, L. (Eds.). *Dimensions of thinking and cognitive instruction* (p.p15-51). Erlbaum: Hillsdale, NJ.

Perkins, D.N., and Salomon, G. (1989). Are cognitive skills context-bound? *Educational Researcher*, *1*, 16-25.

Pintrich, P. R., Marx, R.W., and Boyle, R.A. (1993). Beyond cold conceptual change The role of motivational beliefs and classroom contextual factors in the process of conceptual change .*Review of Educational Research*, *63*,167-200.

Pishghadam, R. (2009). The relationship between the use of learning strategies with gender for learning English and the preferred learning strategies for learning English by Iranian students. *Journal of the Literature and Humanities Faculty of Tabriz University, 208*,24-50. Available online: www.sid.ir

Pressley, M., and McCormick, C.B. (1995). *Advanced educational psychology for educators, researchers, and policymakers*. New York: HarperCollins.

Purpura, J. (1997). An analysis of the relationships between test takers' cognitive and metacognitive strategy use and second language test performance. *Language Learning, 47*, 289-325.

Purpura, J. (1998). Investigating the effects of strategy use and second language test performance with high- and low-ability test-takers: A structural equation modeling approach. *Language Testing, 15*, 333-379

Rahimi, M. and Katal, M. (2010, May). *Iranian university students' metacognitive listening strategies awareness in learning English*. Paper presented at the third national conference on education, Tehran, Iran.

Rasekh, Z. and Ranjbary, R. (2003).Metacognitive strategy training for vocabulary learning, *TESL-EJ, 7*, 1-18.

Ridley, D.S., Schutz, P.A., Glanz, R.S., and Weinstein, C.E. (1992). Self-regulated learning: the interactive influence of metacognitive awareness and goal-setting. *Journal of Experimental Education, 60*, 293-306.

Rubin, J. (1975). What the "good language learner" can teach us? *TESOL Quarterly, 9*, 41-51.

Rubin, J. (1981). Study of cognitive processes in second language learning. *Applied Linguistics, 11*, 118-131.

Rubin, J. (1987) Learner strategies: Theoretical assumptions, research history and typology. In A. Wenden and J. Rubin (Eds) *Learner Strategies in Language Learning* (pp. 15–30). London: Prentice Hall.

Salehi, R., and Farzad, V.A.(2003). The relationship between metacognitive knowledge, learning conception and learning English. *Journal of Psychology, 7*(3), 270-286.

Salarifar, M.H., and Pakdaman, Sh.(2010). The role of metacognitive state components on academic performance. *Journal of Applied Psychology, 3*(4), 102-112.

Schommer, L.(1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology,82*, 498-504.

ShiraniBidabadi, F., and Yamat, H.(2010).The Relationship between Listening Strategies Employed by Iranian EFL Freshman University Students and their Learning Style Preferences. *European Journal of Social Sciences, 16*(3), 342-351.

ShiraniBidabadi, F., and Yamat, H. (2011).The Relationship between Listening Strategies Used by Iranian EFL Freshman University Students and Their Listening Proficiency Levels. *English Language Teaching, 4*(1),26-32.

Skehan, P. (1998). *A cognitive approach to language learning*. Oxford: Oxford University Press.

Stern, H. H. (1975). What can we learn from the good language learner? *Canadian Modern Language Review, 31*, 304-318.

Sternberg, R. J. (1998). Metacognition, abilities and developing expertise: What makes an expert student? *Instructional Science, 26*, 127- 140.

Sutudenama, E., and Taghipur. F. (1389). The relationship between motivation, metacognitive knowledge of learning strategies and listening comprehension of Iranian learners of English. *Language research Journal of Alzahra university*, *1*(2),25-52.m Available online: www.sid.ir

Tajedin, Z.(2001).Language learning strategies: A strategy-based approach to L2 learning, strategic competence, and test validation. Unpublished doctoral dissertation. Allameh Tabatabaee University, Tehran, Iran. Available online: www.irandoc.ir

Vann, R., and Abraham, R. (1990).Strategies of unsuccessful language learners. *TESOL Quarterly, 24*, 177-98.

Vandergrift, L. (1996). The listening comprehension strategies of core French high school students, *Canadian Modern Language Review, 52*, 200-23.

Vandergrift, L. (1997). The Strategies of Second Language (French) listeners: A Descriptive Study. *Foreign Language Annals, 30*, 387-409.

Vandergrift, L. (2005). Relationships among motivation orientations, Metacognitive awareness and proficiency in L2 listening. *Applied Linguistics, 26,* 70-89.

Vandergrift, L. Goh, C.C.M., Mareschal, C., and Tafaghodtari, M. H. (2006). The metacognitive awareness listening questionnaire (MALQ): Development and Validation. *Language Learning, 56*(3), 431-462.

Victori, M., and Lockhart, W. (1995). Enhancing metacognition in self-directed language learning. *System, 23*, 223-234.

Wenden, A. (1991). *Learner strategies for learner autonomy: Planning and implementing learner training for language learners*. New York: Prentice Hall.

Wenden, A. (1998). Metacognitive knowledge and language learning. *Applied Linguistics, 19*(4), 515–537.

Wenden, A. L. (2002). Learner development in language learning. *Applied Linguistics, 23*, 32-55.

Wong, B.Y. L. (1986). Metacognition and special education:A review of a view. *Journal of Special Education, 20*, 9-26.

Yang, N. D. (1998).Exploring a new role for teachers: promoting learner autonomy. *System, 26*, 127-135.

Young, M.Y.C. (1997). A serial ordering of listening comprehension strategies used by advanced ESL learners in Hong Kong. *Asian Journal of English language Teaching, 7,* 35-53.

Zare, H., and Sarmadi, M.R.(1383). The difference between weak and strong Payame Nour University students in their metacognitive knowledge and metacognitive strategies awareness. *Nour review*, 3(2). Available online: www.sid.ir

Zhang, D., and Goh, C. (2006). Strategy knowledge and perceived strategy use: Singaporean students' awareness of listening and speaking strategies. *Language Awareness, 15*,199-219.

Zimmerman, B.J. and Pons, M.M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. American *Educational Research Journal, 23*,614-628.

Zimmerman, B. J. (1989). Models of self-regulated learning and academic achievement. In Zimmerman B.J., & Schunk, D. H. (eds), *Self-Regulated Learning and Academic Achievement Theory, Research and Practice*. New York Springer: Verlag.

Zimmerman, B.J., and Bandura, A. (1994). Impact of self-regulatory influences on writing course attainment. *American Educational Research Journal, 31*, 845-862.

Zimmerman, B. J., and Schunk, D. H. (2001).*Self-regulated learning and academic achievement*. Mahwah, NJ: Erlbaum.